

REMARKS/ARGUMENTS

Claims 1, 3-29, and 31-34 remain in this application. The Examiner has indicated that claims 29 and 31-34 are directed to allowable subject matter. Applicants acknowledge the Examiner's allowance.

The Examiner has rejected claims 1, 3-8, 10-12, 14-16, 18, 20, 22-23, and 25-26 as b under 35 U.S.C 102(b) as being anticipated by U.S. Pat. No. 3,915,896 (Oliver). The Examiner has also rejected claims 1 and 3-28 under 35 U.S.C 102(e) as being anticipated by U.S. Pat. No. 6,022,825 (Anderson). Applicants respectfully traverse the Examiner's rejection for the following reasons.

The invention as presented in claim 1 requires a catalyst for converting NO_x in exhaust gases to NH_3 comprising at least one metal oxide impregnated with at least one noble metal, the metal oxide selected from the group consisting of Fe_2O_3 , Cr_2O_3 , a combination of Fe_2O_3 and $\text{La}-\gamma-\beta-\text{Al}_2\text{O}_3$, and a combination of Fe_2O_3 and CeO_2 , the noble metal selected from the group consisting of Pt, Pd, Ir, and Rh.

Applicants respectfully submit that the aforesaid required elements are not set forth in Oliver. Oliver is directed to a catalytically active support that is composed of gehlenite ($\text{Ca}_2\text{Al}_2\text{SiO}_7$) or a material that is isomorphous with gehlenite. Oliver teaches that the catalytically active support includes an acidic or amphoteric oxide (preferably 70 wt.%) in combination with a basic oxide (column 1, lines 19-20, 27-30 and 40-41). Oliver further teaches that suitable acidic or amphoteric oxides include chromia and iron oxide, and that suitable basic oxides include calcium, strontium or barium. Therefore, Oliver requires a combination of chromia or iron oxide and one of calcium, strontium or barium to obtain gehlenite or an isomorphous compound as the catalytically active support.

Anderson is directed to a three-way catalyst which converts NO_x into innocuous gases. In three-way catalysts, a noble metal such as Rh and/or Pt selectively reduce NO_x to CO_2 and N_2 in stoichiometric ratio in the absence (or at extremely low concentrations) of oxygen. The present invention is directed to controlling NO_x emission from lean-burn engines or engines operating in oxygen-rich environments, by converting NO_x to NH_3 . Therefore, Anderson and the present invention are not directed to the same catalyst. Also, the presence of oxygen rapidly deteriorates the performance of three-way catalysts.

Furthermore, Anderson teaches a catalyst with a required combination of two oxide support materials, such as Zr-stabilized ceria and La-stabilized alumina. (column 4, lines 66 – column 5, lines 1-2. The present invention requires only a metal oxide support. Also, Anderson teaches the use of ceria as an oxygen storage material. That is not the function of ceria as the metal oxide support in the present invention.

Therefore, the present invention is not anticipated by either Oliver or Anderson. Based upon the above remarks applicants believe the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicants respectfully request that a timely Notice of Allowance be issued in this case.

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Amdt. dated: 4/27/04

Reply to Office action of: 1/30/04

Applicants believes that no extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Anca C. Gheorghiu at (607) 974-3322.

Respectfully submitted,

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